

PROCESS OF QUADRICYCLANE PRODUCTION

ABSTRACT

The present invention relates to a process for efficiently producing quadricyclane by the conversion of norbornadiene. A sensitizer, such as a substituted diaminobenzophenone having a solubility in norbornadiene greater than that of Michler's Ketone, may be added to the norbornadiene to form a solution, wherein the sensitizer decreases the induction period at the beginning of the reaction, increases the photon or quantum efficiency of conversion of norbornadiene to quadricyclane, and increases the rate of conversion at the end of the reaction. The solution may be irradiated with light from a metal halide-doped mercury arc lamp and filtered through a sharp cut-off filter to render photochemical transformation of norbornadiene to quadricyclane more efficient than when other light sources are utilized. Furthermore, the addition of a base to the solution tends to result in the formation of fewer by-products in the transformation reaction.